PHYSICA D

Abstracted/Indexed in: ACM Computing Reviews; Applied Mechanics Reviews; Current Contents: Physical, Chemical & Earth Sciences; Current Mathematical Publications; EI Compendex Plus; INSPEC; Mathematical Reviews

Volume 122, Nos. 1–4 **1 November 1998**

Contents

Stability analysis of singular patterns in the 1D Gray–Scott model: a matched asymptotics approach
A. Doelman, R.A. Gardner and T.J. Kaper 1

An operator theoretic approach to the Toda lattice equation
C. Schiebold 37

A note on adiabatic invariance in Hamiltonian systems depending singularly on the slow time
V. Zharnitsky 62

A property of exponential stability in nonlinear wave equations near the fundamental linear mode
D. Bambusi and N.N. Nekhoroshev 73

Statistical mechanics of a dissipative dynamical system with small noise
M.E. Stern 105

New stability results for patterns in a model of long-wavelength convection
A.C. Skeldon and M. Silber 117

Cycling chaos: its creation, persistence and loss of stability in a model of nonlinear magnetoconvection
P. Ashwin and A.M. Rucklidge 134

Acoustic characterization of fractal crack surface
D. Dutta, P. Barat and S.N. Ganguly 155

Parametric generation in anomalously dispersive media
A.S. Gorshkov, G.A. Lyakhov, K.I. Voliak and L.A. Yarovoi 161

Conditional symmetry of a porous medium equation
R.Z. Zhdanov and V.I. Lahno 178

On velocity and passive scalar scaling laws in a turbulent swirling flow
J.-F. Pinton, F. Plaza, L. Danaila, P. Le Gal and F. Anselmet 187

Continued on inside page

0167-2789(19981101)122:1-4;1-G

PHYSICA D

Abstracted/Indexed in: ACM Computing Reviews; Applied Mechanics Reviews; Current Contents: Physical, Chemical & Earth Sciences; Current Mathematical Publications; EI Compendex Plus; INSPEC; Mathematical Reviews

Volume 122, Nos. 1–4 **1 November 1998**

Contents

Stability analysis of singular patterns in the 1D Gray–Scott model: a matched asymptotics approach
A. Doelman, R.A. Gardner and T.J. Kaper 1

An operator theoretic approach to the Toda lattice equation
C. Schiebold 37

A note on adiabatic invariance in Hamiltonian systems depending singularly on the slow time
V. Zharnitsky 62

A property of exponential stability in nonlinear wave equations near the fundamental linear mode
D. Bambusi and N.N. Nekhoroshev 73

Statistical mechanics of a dissipative dynamical system with small noise
M.E. Stern 105

New stability results for patterns in a model of long-wavelength convection
A.C. Skeldon and M. Silber 117

Cycling chaos: its creation, persistence and loss of stability in a model of nonlinear magnetoconvection
P. Ashwin and A.M. Rucklidge 134

Acoustic characterization of fractal crack surface
D. Dutta, P. Barat and S.N. Ganguly 155

Parametric generation in anomalously dispersive media
A.S. Gorshkov, G.A. Lyakhov, K.I. Voliak and L.A. Yarovoi 161

Conditional symmetry of a porous medium equation
R.Z. Zhdanov and V.I. Lahno 178

On velocity and passive scalar scaling laws in a turbulent swirling flow
J.-F. Pinton, F. Plaza, L. Danaila, P. Le Gal and F. Anselmet 187

Continued on inside page

0167-2789(19981101)122:1-4;1-G

PHYSICA D
Volume 122, Nos. 1–4 **1 November 1998**

Contents (continued)

A convective Cahn–Hilliard model for the formation of facets and corners in crystal growth
A.A. Golovin, S.H. Davis and A.A. Nepomnyashchy 202

Bursting behaviour of the FitzHugh–Nagumo neuron model subject to quasi-monochromatic noise
J.P. Baltanás and J.M. Casado 231

Relative chaos in gravitating systems with massive centre
A.A. El-Zant and V.G. Gurzadyan 241

Testing for an attractor in the solar wind flow
W.M. Macek 254

A new method to estimate the Kolmogorov entropy from recurrence plots: its application to neuronal signals
P. Faure and H. Korn 265

Forthcoming articles 280
Cumulative author index of volumes 121–122 281
Index of authors and papers to volume 122 282